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Preparation of complexes η4-4-(1,3-diphenyl-2-pr-pen-1-one)- η3-3-(1,3,5-triorganyl-1-3,5-triazacyclohexane) carbonyltungsten(0) and their reactions with diethyl phosphite

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Abstract

New tungsten complexes were prepared of a composition η3- [(1,3,5-triorganyl)-1,3-5-triazacyclohexane]-tricarbonyltungsten(0) where a tridentate coordination of the triazinane fragment to the metal center was found. The reaction of tricarbonyltriazinane tungsten complexes with 1,3-diphenyl-2-propen-1-one (chalcone) under thermochemical activation resulted in replacement of two carbon monoxide molecules in the coordination sphere of tungsten by a chalcone molecule linked to the transition metal atom through a system of π-bonds C=C and C=O. The phosphorylation of η4-(1,3- diphenyl-2-propen-1-one)-η3-[-1,3,5-triphenyl)-1,3, 5-triazacyclohexane]-monocarbonyltungsten(0) with diethyl phosphite occurred at the carbonyl group of the coordinated heterodiene; the phosphonate thus formed underwent intracomplex phosphonate-phosphate rearrangement affording an organometallic phosphate. ©2005 Pleiades Publishing, Inc.

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